The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A method comprising:

exposing an animal to an inhalant;

acquiring near real time measurement of at least respiration during said exposing; and

calculating a received dose of the inhalant in response to the near real time measurement of the at least respiration during said exposing.

2. The method of Claim 1, wherein said exposing an animal to an inhalant comprises:

dispersing either an organic or inorganic substance.

3. The method of Claim 2, wherein said dispersing either an organic or inorganic substance comprises:

dispersing a substance having a form selected from an inhalant-form group including a wet aerosol form, a dry aerosol form, a gaseous substance form, mist form, a fog form, a fume form, and an airborne substance form.

4. The method of Claim 1, wherein said exposing an animal to an inhalant comprises:

dispersing the inhalant into an inhalant chamber.

5. The method of Claim 4, wherein said dispersing the inhalant into an inhalant chamber comprises:

dispersing the inhalant into an inhalant chamber having a configuration selected from an exposure-target group including a configuration to house a nose of the animal, a configuration to house a head of the animal, a configuration to house a part of the animal, and a configuration to house the entire animal.

6. The method of Claim 1, wherein said exposing an animal to an inhalant comprises:

exposing the animal drawn from a gas-breathing-members-of-phylum-chordata group which includes an avian, a rodent, a primate, a feline, a canine, a porcine, an equine.

7. The method of Claim 1, wherein said acquiring near real time measurement of at least respiration during said exposing comprises:

calculating the at least respiration via detecting at least one change in an inhalant chamber pressure.

8. The method of Claim 7, wherein said calculating the respiration via at least one change in an inhalant chamber pressure comprises:

converting the at least one change in the inhalant chamber pressure into at least one change in an inhalant chamber volume via use of the Ideal Gas Law; and

calculating the respiration from the at least one change in the inhalant chamber volume.

9. The method of Claim 1, wherein said acquiring near real time measurement of at least respiration during said exposing comprises:

acquiring near real time measurement of at least one exposing parameter selected from an exposing-parameter group including humidity, temperature, pressure, flow volume, and inhalant concentration.

10. The method of Claim 1, wherein said calculating a received dose of the inhalant in response to the near real time measurement of the at least respiration during said exposing comprises:

multiplying a measured inhalant concentration by a volume inhaled by an animal.

11. The method of Claim 1, wherein said calculating a received dose of the inhalant in response to the near real time measurement of the at least respiration during said exposing comprises:

multiplying an inferred inhalant concentration by a volume inhaled by an animal.

12. A system comprising:

means for exposing an animal to an inhalant;

means for acquiring near real time measurement of at least respiration during said exposing; and

means for calculating a received dose of the inhalant in response to the near real time measurement of the at least respiration during said exposing.

13. The system of Claim 12, wherein said means for exposing an animal to an inhalant comprises:

means for dispersing either an organic or inorganic substance.

14. The system of Claim 13, wherein said means for dispersing either an organic or inorganic substance comprises:

means for dispersing a substance having a form selected from an inhalant-form group including a wet aerosol form, a dry aerosol form, a gaseous substance form, mist form, a fog form, a fume form, and an airborne substance form.

15. The system of Claim 12, wherein said means for exposing an animal to an inhalant comprises:

means for dispersing the inhalant into an inhalant chamber.

16. The system of Claim 15, wherein said means for dispersing the inhalant into an inhalant chamber comprises:

means for dispersing the inhalant into an inhalant chamber having a configuration selected from an exposure-target group including a configuration to house a nose of the animal, a configuration to house a head of the animal, a configuration to house a part of the animal, and a configuration to house the entire animal.

17. The system of Claim 12, wherein said means for exposing an animal to an inhalant comprises:

means for exposing the animal drawn from a gas-breathing-members-of-phylum-chordata group, which includes an avian, a rodent, a primate, a feline, a canine, a porcine, an equine.

18. The system of Claim 12, wherein said means for acquiring near real time measurement of at least respiration during said means for exposing comprises:

means for calculating the at least respiration via detecting at least one change in an inhalant chamber pressure.

19. The system of Claim 18, wherein said means for calculating the respiration via at least one change in an inhalant chamber pressure comprises:

means for converting the at least one change in the inhalant chamber pressure into at least one change in an inhalant chamber volume via use of the Ideal Gas Law; and

means for calculating the respiration from the at least one change in the inhalant chamber volume.

20. The system of Claim 12, wherein said means for acquiring near real time measurement of at least respiration during said means for exposing comprises:

means for acquiring near real time measurement of at least one exposing parameter selected from an exposing-parameter group including humidity, temperature, pressure, flow volume, and inhalant concentration.

21. The system of Claim 12, wherein said means for calculating a received dose of the inhalant in response to the near real time measurement of the at least respiration during said means for exposing comprises:

means for multiplying a measured inhalant concentration by a volume inhaled by an animal.

22. The system of Claim 12, wherein said means for calculating a received dose of the inhalant in response to the near real time measurement of the at least respiration during said means for exposing comprises:

means for multiplying an inferred inhalant concentration by a volume inhaled by an animal.

23. A method comprising:

automatically controlling an environment of an inhalant chamber; and

automatically controlling a concentration of an inhalant in the inhalant chamber.

24. The method of Claim 23, wherein said automatically controlling an environment of an inhalant chamber comprises:

maintaining one or more environmental factors via feedback control, wherein said one or more environmental factors are selected from an environmental-factor group including pressure, temperature, humidity, airflow in to the inhalant chamber, and airflow out of the inhalant chamber.

25. The method of Claim 24, wherein said maintaining one or more environmental factors via feedback control comprises:

controlling the one or more environmental factors via monitoring one or more environmental sensors selected from an environmental-sensor group including a pressure sensor, a temperature sensor, a humidity sensor, an input airflow sensor, and an output airflow sensor.

26. The method of Claim 25, wherein said controlling the one or more environmental factors via monitoring one or more environmental sensors comprises:

controlling the one or more environmental factors via one or more Proportional Integral Derivative (PID) controllers respectively receiving input from the one or more environmental sensors and respectively adjusting one or more environmental drivers selected from the environmental-driver group including a pressure driver, a temperature driver, a humidity driver, an input airflow driver, and an output airflow driver.

27. The method of Claim 23, wherein said automatically controlling a concentration of an inhalant in the inhalant chamber comprises:

dispersing either an organic or inorganic substance via electronic control of one or more inhalant dissemination devices.

28. The method of Claim 27, wherein said dispersing either an organic or inorganic substance via electronic control of one or more inhalant dissemination devices comprises:

dispersing a substance having a form selected from an inhalant-form group including a wet aerosol form, a dry aerosol form, a gaseous substance form, mist form, a fog form, a fume form, and an airborne substance form.

29. The method of Claim 27, wherein said dispersing either an organic or inorganic substance via electronic control of one or more inhalant dissemination devices comprises:

controlling the one or more inhalant dissemination devices via one or more Proportional Integral Derivative (PID) controllers respectively receiving input from one or more dissemination-related sensors selected from the dissemination-related-sensor group including a chamber pressure monitor, an inhalant-concentration sensor, and a gas sensor.

30. The method of Claim 23, wherein said automatically controlling a concentration of an inhalant in the inhalant chamber comprises:

controlling a flow rate either into or out of the inhalant chamber in response to a specified dispensement of the inhalant.

31. The method of Claim 30, wherein said controlling a flow rate either into or out of the inhalant chamber in response to a specified dispensement of the inhalant comprises:

controlling the flow rate either into or out of the inhalant chamber via one or more Proportional Integral Derivative (PID) controllers respectively receiving input from one or more concentration-related sensors selected from a concentration-related-sensor group including a chamber pressure monitor, an inhalant-concentration sensor, a gas sensor, an input airflow sensor, and an output airflow sensor.

32. The method of Claim 23 further comprising:

displaying near real time measurement data related to an animal in the inhalant chamber.

33. The method of Claim 32, wherein said displaying near real time measurement data related to an animal in an inhalant chamber comprises:

displaying one or more animal-related factors, wherein said one or more animal-related factors are selected from the animal-related-factor group including to respiration data, and dosimetry data.

34. The method of Claim 32, wherein said displaying near real time measurement data related to an animal in an inhalant chamber comprises:

displaying one or more environmental factors, wherein said one or more environmental factors are selected from an environmental-factor group including pressure, temperature, humidity, and airflow into the inhalant chamber, and airflow out of the inhalant chamber.

35. A system comprising:

means for automatically controlling an environment of an inhalant chamber; and

means for automatically controlling a concentration of an inhalant in the inhalant chamber.

36. The system of Claim 35, wherein said means for automatically controlling an environment of an inhalant chamber comprises:

means for maintaining one or more environmental factors via feedback control, wherein said one or more environmental factors are selected from an environmental-factor group including pressure, temperature, humidity, airflow in to the inhalant chamber, and airflow out of the inhalant chamber.

37. The system of Claim 36, wherein said means for maintaining one or more environmental factors via feedback control comprises:

means for controlling the one or more environmental factors via monitoring one or more environmental sensors selected from an environmental-sensor group including a pressure sensor, a temperature sensor, a humidity sensor, an input airflow sensor, and an output airflow sensor.

38. The system of Claim 37, wherein said means for controlling the one or more environmental factors via monitoring one or more environmental sensors comprises:

means for controlling the one or more environmental factors via one or more Proportional Integral Derivative (PID) controllers respectively receiving input from the one or more environmental sensors and respectively adjusting one or more

environmental drivers selected from the environmental-driver group including a pressure driver, a temperature driver, a humidity driver, an input airflow driver, and an output airflow driver.

39. The system of Claim 35, wherein said means for automatically controlling a concentration of an inhalant in the inhalant chamber comprises:

means for dispersing either an organic or inorganic substance via electronic control of one or more inhalant dissemination devices.

40. The system of Claim 39, wherein said means for dispersing either an organic or inorganic substance via electronic control of one or more inhalant dissemination devices comprises:

means for dispersing a substance having a form selected from an inhalant-form group including a wet aerosol form, a dry aerosol form, a gaseous substance form, mist form, a fog form, a fume form, and an airborne substance form.

41. The system of Claim 39, wherein said means for dispersing either an organic or inorganic substance via electronic control of one or more inhalant dissemination devices comprises:

means for controlling the one or more inhalant dissemination devices via one or more Proportional Integral Derivative (PID) controllers respectively receiving input from one or more dissemination-related sensors selected from the dissemination-related-sensor group including a chamber pressure monitor, an inhalant-concentration sensor, and a gas sensor.

42. The system of Claim 35, wherein said means for automatically controlling a concentration of an inhalant in the inhalant chamber comprises:

means for controlling a flow rate either into or out of the inhalant chamber in response to a specified dispensement of the inhalant.

43. The system of Claim 42, wherein said means for controlling a flow rate either into or out of the inhalant chamber in response to a specified dispensement of the inhalant comprises:

means for controlling the flow rate either into or out of the inhalant chamber via one or more Proportional Integral Derivative (PID) controllers respectively receiving input from one or more concentration-related sensors selected from a concentration-related-sensor group including a chamber pressure monitor, an inhalant-concentration sensor, a gas sensor, an input airflow sensor, and an output airflow sensor.

44. The system of Claim 35 further comprising:

means for displaying near real time measurement data related to an animal in the inhalant chamber.

45. The system of Claim 44, wherein said means for displaying near real time measurement data related to an animal in an inhalant chamber comprises:

means for displaying one or more animal-related factors, wherein said one or more animal-related factors are selected from the animal-related-factor group including to respiration data, and dosimetry data.

46. The system of Claim 44, wherein said means for displaying near real time measurement data related to an animal in an inhalant chamber comprises:

means for displaying one or more environmental factors, wherein said one or more environmental factors are selected from an environmental-factor group including pressure, temperature, humidity, and airflow into the inhalant chamber, and airflow out of the inhalant chamber.

47. A method comprising:

displaying near real time measurement data related to an animal in an inhalant chamber.

48. The method of Claim 47, wherein said displaying near real time measurement data related to an animal in an inhalant chamber comprises:

displaying one or more animal-related factors, wherein said one or more animal-related factors are selected from an animal-related-factor group including respiration data, and dosimetry data.

49. The method of Claim 47, wherein said displaying near real time measurement data related to an animal in an inhalant chamber comprises:

displaying one or more environmental factors, wherein said one or more environmental factors are selected from the environmental-factor group including pressure, temperature, humidity, and airflow into the inhalant chamber, and airflow out of the inhalant chamber.

50. The method of Claim 47, wherein said displaying near real time measurement data related to an animal in an inhalant chamber comprises:

displaying one or more inhalant-related factors, wherein said one or more inhalant-related factors are selected from the inhalant-related-factor group including rate of inhalant dispensement and inhalant concentration.

51. A system comprising:

means for displaying near real time measurement data related to an animal in an inhalant chamber.

52. The system of Claim 51, wherein said means for displaying near real time measurement data related to an animal in an inhalant chamber comprises:

means for displaying one or more animal-related factors, wherein said means for one or more animal-related factors are selected from an animal-related-factor group including respiration data, and dosimetry data.

53. The system of Claim 51, wherein said means for displaying near real time measurement data related to an animal in an inhalant chamber comprises:

means for displaying one or more environmental factors, wherein said means for one or more environmental factors are selected from the environmental-factor group including pressure, temperature, humidity, and airflow into the inhalant chamber, and airflow out of the inhalant chamber.

54. The system of Claim 51, wherein said means for displaying near real time measurement data related to an animal in an inhalant chamber comprises:

means for displaying one or more inhalant-related factors, wherein said one or more inhalant-related factors are selected from the inhalant-related-factor group including rate of inhalant dispensement and inhalant concentration.

55. A system comprising:

at least one inhalant chamber; and

at least one animal respiration sensor integral with the at least one inhalant chamber.

56. The system of Claim 55, wherein the at least one inhalant chamber comprises:

the at least one inhalant chamber configured to accept at least a part of an animal wherein the at least a part of the animal is selected from the animal-part group including the animal's head, the animal's nose, a portion of the animal, and the animal in its entirety.

57. The system of Claim 55, wherein the at least one inhalant chamber comprises:

the at least one inhalant chamber constructed from non-porous materials.

58. The system of Claim 55, wherein the at least one animal respiration sensor integral with the at least one inhalant chamber comprises:

at least one pressure transducer integral with the at least one inhalant chamber.

59. The system of Claim 55, wherein the at least one animal respiration sensor integral with the at least one inhalant chamber comprises:

the at least one animal respiration sensor operably coupled to circuitry, wherein the circuitry includes one or more electrical circuits selected from the electrical-circuit

group including electrical circuits having at least one discrete electrical circuit, electrical circuits having at least one integrated circuit, electrical circuits having at least one application specific integrated circuit, and electrical circuits providing at least one general purpose computing device configurable by a computer program, and electrical circuits providing a communications device.

60. The system of Claim 55, wherein the at least one inhalant chamber comprises:

at least one sensor integral with the at least one inhalant chamber wherein the at least one sensor is selected from the sensor group including a pressure sensor, a temperature sensor, a humidity sensor, an input airflow sensor, an output airflow sensor, an inhalant dispensement sensor, a pressure sensor, and an inhalant-concentration sensor.

61. The system of Claim 60, wherein the at least one sensor integral with the at least one inhalant chamber comprises:

the at least one sensor operably coupled to circuitry, wherein the circuitry includes one or more electrical circuits selected from the electrical-circuit group including electrical circuits having at least one discrete electrical circuit, electrical circuits having at least one integrated circuit, electrical circuits having at least one application specific integrated circuit, electrical circuits providing at least one general purpose computing device configurable by a computer program, and electrical circuits providing a communications device.

62. The system of Claim 61, wherein the electrical circuits providing at least one general purpose computing device configurable by a computer program comprise:

electrical circuits providing a memory, wherein the memory contains control software which interfaces with the at least one sensor and provides control or recording functions.

63. The system of Claim 55, wherein the at least one inhalant chamber comprises:

at least one environmental control device operably coupled with the at least one inhalant chamber wherein the at least one environmental control device is selected from the environmental-control-device group including at least one humidifier, at least one input airflow device, at least one output airflow device, at least one device to heat the inhalant chamber, and at least one device to cool the inhalant chamber.

64. The system of Claim 63, wherein the at least one environmental control device operably coupled with the at least one inhalant chamber comprises:

the at least one environmental control device operably coupled to circuitry, wherein the circuitry includes one or more electrical circuits selected from the electrical-circuit group including electrical circuits having at least one discrete electrical circuit, electrical circuits having at least one integrated circuit, electrical circuits having at least one application specific integrated circuit, and electrical circuits providing at least one general purpose computing device configurable by a computer program, and electrical circuits providing a communications device.

65. The system of Claim 64, wherein the electrical circuits providing at least one general purpose computing device configurable by a computer program comprise:

electrical circuits providing a memory, wherein the memory contains control software which interfaces with the at least one environmental control device and provides control or recording functions.